REMARKS

Claims 1-21 and 25-34 are pending in this application including independent claims 1, 16, 17, and 27 are independent. Claims 1, 5, 10, 15-17, 25, 27, 30, and 31 have been amended in order to advance prosecution. Support for the claim amendments can be found in specification and drawings as originally filed. No new matter has been added. Favorable reconsideration and allowance of the pending claims are requested.

Claim Rejections – 35 U.S.C. § 103(a)

Claims 1-13, 15, 17-19, 21, and 25-34

Claims 1-13, 15, 17-19, 21, and 25-34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Borkar et al., "Automatic segmentation of text strings into structured records" ("Borkar") and in view of Ando et al., "Mostly-Unsupervised Statistical Segmentation of Japanese Sequences" ("Ando"). Applicants respectfully traverse this rejection.

While Applicants disagree with the grounds of rejection set forth in the Office Action, independent claims 1, 17, and 27 have been amended in order to advance prosecution. Applicants submit that the DATAMOLD tool described in Borkar and relied upon in the present Office Action neither explicitly nor inherently discloses the features recited by the amended independent claims. Applicants further submit that Ando also does not teach or suggest such features and does not remedy the deficiencies of Borkar with respect to such claims.

Amended independent claim 1 recites, among its other elements, providing a state transition model...which categorizes tokens in database attribute values of the data records into positions, categorizes states for accepting classes of tokens into said positions, and adjusts said states and probabilities associated with said states within said positions to account for erroneous token placement in the input string. Amended independent claim 1 also recites the state transition models derived from training data from an existing collection of data records and wherein training data corresponding to database attributes in the existing collection of data records does not comprise manually segmented training data.

Amended independent claim 17 recites, among its other elements, one or more of said attribute recognition models includes probabilities for segmenting input strings into component parts which categorizes tokens in database attribute values of the data records into positions, categorizes states for accepting classes of tokens into said positions, and adjusts said states and probabilities associated with said states within said positions to account for erroneous entries within an input string. Amended independent claim 17 also recites a model building component on the computer system that builds a number of attribute recognition models derived from training data from an existing relation of data records, wherein training data corresponding to database attributes in the existing relation of data records does not comprise manually segmented training data.

Amended independent claim 27 recites, among its other elements, providing a state transition model…which categorizes tokens in database attribute values of the data records into positions, categorizes states for accepting classes of tokens into said positions, and adjusts said states and probabilities associated with said states within said positions to account for erroneous token placement in the input string. Amended independent claim 27 also recites means for providing a state transition model derived from training data from an existing collection of data records and wherein training data corresponding to database attributes in the existing collection of data records does not comprise manually segmented training data.

When addressing independent claims 1, 17, and 27, the Office Action relies on portions of Borkar that describe a Hidden Markov Model (HMM) that includes three states, a start state, and an end state. Applicants submit, however, that there is no teaching or suggestion in Borkar of a state transition model that categorizes tokens in database attribute values of the data records into positions and categorizes states for accepting classes of tokens into said positions.

The Office Action also relies on portions of Borkar that describe restricting exploring paths that are invalid given the database of semantic relationships amongst symbols of different elements by modeling semantic constraints as a pair of symbol-state assignment that are invalid. Applicants submit however, that there is no teaching or suggestion in Borkar of a state transition model that categorizes states for accepting classes of tokens into said positions and adjusts said states and probabilities associated

with said states within said positions to account for erroneous entries within an input string.

As admitted in the Office Action, Borkar fails to teach or suggest a state transition model based on an existing collection of data record that does not comprise manually segmented training data. When addressing such deficiencies of Borkar, the Office Action relies on portions of Ando related to a statistical method that utilizes unsegmented training data to sement Japanses kanji sequences.

Applicants submit that Ando fails to teach or suggest at least categorizing tokens in database attribute values of the data records into positions, categorizing states for accepting classes of tokens into said positions, and adjusting said states and probabilities associated with said states within said positions to account for erroneous token placement in the input string. As such, Ando does not remedy the deficiencies of Borkar with respect to amended independent claims 1, 17, and 27 for at least this reason. Applicants also submit that Ando does not disclose training data corresponding to database attributes in an existing collection of data records that does not comprise manually segmented training data.

In view of the above, Applicants submit that none of the references, including Borkar and Ando, teaches or suggests all of the features recited by amended independent claims 1, 17, and 27, regardless of whether such references are taken alone or in combination with each other. Consequently, even if Borkar and Ando could be combined, which Applicants do not admit, such combination would not teach or suggest all of the features of amended independent claims 1, 17, or 27. Further, Applicants submit that there is no teaching, suggestion, or motivation to modify Borkar and/or Ando to include all of the recited features of amended independent claims 1, 17, or 27. Therefore, Applicants submit that Borkar and Ando, whether taken alone or in combination with each other, are insufficient to establish obviousness under § 103(a) with respect to amended independent claim 1, amended independent claim 17, or amended independent claim 27.

For at least the reasons set forth above, Applicants submit that amended independent claims 1, 17, and 27 are allowable and that dependent claims 2-13, 15, 18,

19, 21, 25, 26, and 28-34 are also allowable by virtue of their dependency from allowable claims, as well as on their own merits.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the § 103(a) rejection of claims 1-13, 15, 17-19, 21, and 25-34.

Claims 14 and 20

Claims 14 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Borkar in view of Ando and further in view of United States Patent No. 5,095,432 to Reed ("Reed"). Applicants respectfully traverse this rejection.

As set forth above, Applicant submits that neither Borkar nor Ando teaches or suggests all of the features of amended independent claims 1 or 17. Applicants further submit that the register vector grammar parsing algorithm described in Reed and relied upon in the Office Action does not remedy the deficiencies of Borkar and Ando with respect to the features recited by amended independent claims 1 or 17.

Even if Borkar, Ando, and Reed could be combined, which Applicants do not admit, such combination would not teach or suggest all of the features of amended independent claims 1 or 17. Further, Applicants submit that there is no teaching, suggestion, or motivation to modify Borkar, Ando and/or Reed to include all of the recited features of amended independent claims 1 or 17. Therefore, Applicants submit that Borkar, Ando and Reed, whether taken alone or in combination with each other, are insufficient to establish obviousness under § 103(a) with respect to amended independent claims 1 or 17. Therefore, Applicant submits that amended independent claims 1 and 17 are allowable and that dependent claims 14 and 20 are also allowable by virtue of their dependency from allowable claims, as well as on their own merits.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the § 103(a) rejection of claims 14 and 20.

Claim 16

Claim 16 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Borkar in view of Ando and further in view of United States Published Patent Application 2006/0235811 to Fairweather ("Fairweather"). Applicants respectfully traverse this rejection.

While Applicants disagree with the grounds of rejection set forth in the Office Action, independent claim 16 has been amended in order to advance prosecution.

Among its other elements, amended independent claim 16 recites analyzing the substrings within database attribute values of string records for an attribute during a training phase to provide a state model that categorizes the substrings within database attribute values into positions based on a beginning, a middle and a trailing token topology for said attribute, said topology including a null token for an empty attribute component. Amended independent claim 16 also recites categorizing states for accepting classes of tokens into said positions.

Applicants submit that the DATAMOLD tool described in Borkar and relied upon in the present Office Action neither explicitly nor inherently discloses the features recited by amended independent claim 16. Applicants further submit that Ando and Fairweather also do not teach or suggest such features and do not remedy the deficiencies of Borkar with respect to such claims.

In view of the above, Applicants submit that none of the references, including Borkar, Ando, and Fairweather, teaches or suggests all of the features recited by amended independent claim 16, regardless of whether such references are taken alone or in combination with each other. Consequently, even if Borkar, Ando, and Fairweather could be combined, which Applicants do not admit, such combination would not teach or suggest all of the features of amended independent claim 16. Further, Applicants submit that there is no teaching, suggestion, or motivation to modify Borkar, Ando, and/or Fairweather to include all of the recited features of amended independent claim 16. Therefore, Applicants submit that Borkar, Ando, and Fairweather, whether taken alone or in combination with each other, are insufficient to establish obviousness under § 103(a) with respect to amended independent claim 16.

For at least the reasons set forth above, Applicants submit that amended independent claim 16 is allowable.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the § 103(a) rejection of claim 16.

Conclusion

It is believed that claims 1-21 and 25-34 are in condition for allowance. Accordingly, a timely Notice of Allowance to this effect is earnestly solicited.

Applicants do not otherwise concede, however, the correctness of the Office Action with respect to any of the limitations of the independent claims and dependent claims discussed above. Accordingly, Applicants hereby reserve the right to make additional arguments as may be necessary to further distinguish the claims from the cited references, taken alone or in combination, based on additional features contained in the independent or dependent claims that were not discussed above. A detailed discussion of these differences is believed to be unnecessary at this time in view of the basic differences in the independent claims pointed out above.

The Examiner is invited to contact the undersigned to discuss any matter concerning this application.

The Office is hereby authorized to charge any additional fees or credit any overpayments under 37 C.F.R. § 1.16 or § 1.17 deposit account 50-0463.

Respectfully submitted,

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Robert V. Racunas, Reg. No. 43,027
Under 37 CFR 1.34(a)

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